

FIRST RECORD OF *SPHOEROIDES PACHYGASTER* (TETRAODONTIDAE) IN THE SOUTH TYRRHENIAN (N/W SICILY).

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In the course of a trawl survey carried out along the coast of N/W Sicily (from 38° 15' N, 13° 15' E to 38° 9' N, 14° 24' E) the capture of one male individual of *Sphoeroides pachygaster* (Müller & Troschel, 1848) [*S. cutaneus* in Tortonese (1986) and some authors, *S. cutaneus* being a synonym of *S. pachygaster* after Shipp (1990)], was recorded in July 1988. Depth of trawling was ca. 160 m, nature of the sea bottom was organic mud. The body measurement of the fish were the following: total length, 247 mm; standard length, 203 mm; head length, 91 mm; head height, 76 mm; head breadth, 51 mm; eye diameter, 19 mm; interorbital distance, 31 mm; preorbital distance, 57 mm; snout length, 36 mm. Radial formulae: P: 15; D: 8; A: 8. Testes were fully mature and reached as far as the two thirds of the abdomen. Microscopic examination of the gonads showed either numerous spermatids or fully viable spermatozooids. There was evidence that the individual had undergone a complete sexual cycle and was ready to spawn. Examination of the gut contents showed quite identifiable fragments of squid.

The specimen is included in the ichthyologic collection of the Zoological Museum of the University of Palermo (PL n° 301).

Notes and remarks

This tetraodontid fish is deemed as a typical thermophilous taxon inhabiting the warm tropical and subtropical waters of the Atlantic Ocean as far South as the Gulf of Guinea (Blache *et al.*, 1970; Fowler, 1936). The species is expanding northward according to Quérou *et al.* (1991) who document its occurrence in the Irish coasts and the Bay of Biscay.

In the Mediterranean it was first recorded in the Balearic Islands by Oliver (1981), followed by Moreno and Roca (1984). Vacchi and Cau

(1985; 1986) reported its occasional presence in the Gulf of Cagliari (S. Sardinia) as well as in the Strait of Sicily. Other records are those by Barletta and Torchio (1986) in the Ligurian Sea; by Fiorentino and Zamboni (1990); Tursi *et al.* (1992) in the Ionian Sea. Bradai *et al.* (1993) observed the fish as far south as the Gulf of Gabès.

The increasing number of captures and the recent data of Ragonese *et al.* (1992) point out a fast diffusion of the species in the Mediterranean, that parallels the northward spreading that has occurred in the Atlantic. The presence of fully mature gonads in many individuals proves the ability of this fish to reproduce locally and give rise to an autonomous population not necessarily dependent on recruitment from the Atlantic. Among the causes of the invasion, one could envisage a greater influx of the Atlantic current in this portion of the basin, which would tend to lower the physico-chemical gradient between the eastern region of the Ocean and the South Mediterranean: the existing biogeographical continuum could therefore be enhanced (Ekman, 1967). Another possible explanation could be consistent with slight changes of the surface temperatures of the eastern Atlantic waters that might have favoured its penetration into the Mediterranean, where it is now likely to become a stable inhabitant.

As a conclusion, *Sphoeroides pachygaster* should be added to that minor list of taxa that are colonizing the Mediterranean from the Atlantic and that are contributing to a short-term alteration of its fauna (Zibrowius, 1991).

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